

## Index, Volume 48, 1995

### A

- Above-ground biomass components, 60
- Aboveground net primary production, 211
- Acacia cyanophylla*, 267
- Acacia smallii*, 560
- Acetylcholinesterase, 336
- Acid detergent fiber, 211
- Adams, Don C., 137, 362, 438
- Addition series, 392
- Agropyron dasytachyum*, (Hook. Scribn., 115
- Agrostis stolonifera*, 18
- Aiken, Glen E., 455
- Alberta, 358
- Alces alces* L., 557
- Alfalfa, 132
- Alkaloids, 343
- Alopecurus pratensis*, 18
- Alterations in condition of cottontail rabbits (*Sylvilagus floridanus*) on rangelands following brush management, 232
- Amaranthus retroflexus*, 376
- Amino acid concentration in seed of preferred forages of bobwhites, 141
- Ammonium-nitrate, 172
- Ammonium-sulfate, 172
- Anderson, Bruce E., 376
- Anderson, D.C., 194
- Anderson, Jay P., 386
- Andropogon gerardii* var., *gerardii*, 376
- Angerer, Jay P., 380
- Animal nutrition, 343
- Annual grasses, 85
- Ansotegui, R.P., 194
- Arctic, 206
- Artemisia*, 386
- cana*, 410
- tridentata* ssp. *wyomingensis*, 73
- tridentata* ssp. *vaseyana* Rydb. Beetle, 398
- Ashby, Mary M., 165
- Assessing the power of the point-line transect to monitor changes in plant basal cover, 187
- Atrazine, 376
- Atrazine impacts on shortgrass prairie microcosms, 298
- Auen, Lisa M., 246

### B

- Bailey, Arthur W., 358
- Bailey, Calvin C., 549
- Baker, Bruce W., 322
- Baldwin, V. Clark, 511
- Bari, F., 251
- Barrett, Reginald H., 327

- Bartlett, E.T., 64
- Bartolome, Jordi, 270
- Basal cover, 187
- Bastian, Chris T., 73
- Beck, Paul A., 198
- Beef cattle, 137, 246, 438
- Beeskow, Ana M., 517
- Berg, William A., 64, 465
- Big bluestem, 150
- Biomass, 290
- Birds, 336
- Bison, 26
- Bison bison*, 92
- Bison selectivity and grazing response of little bluestem in tallgrass prairie, 26
- Bite size, 370
- Black stem rust reduces big sagebrush seed production, 398
- Blackburn, Wilbert H., 45
- Blue grama, 64, 165, 298
- Body condition, 232
- Bolton, Jr., Harvey, 290
- Bonham, Charles D., 187
- Book Reviews, 94, 191, 284, 383, 478, 566
- Boren, Jon C., 141
- Borman, Michael M., 362
- Bos taurus*, 92
- Botanical composition, 206
- Bothriochloa caucasia* (Trin.) C.E. Hubbard, 172
- Bothriochloa ischaemum*, 465
- Bouteloua gracilis*, 417, 470, 508
- Brady, Ward W., 187
- Brandt, Jr., Robert T., 246
- Breakeven return per AUM, 73
- Brejda, John J., 172
- Bromus*
- inermis*, 410
- japonicus*, 264
- tectorum*, 85, 392, 402, 406
- tectorum* L., 290, 386
- Brown, James R., 172
- Browse, 431
- Bruce, L.B., 206
- Brush management, 232
- Buchanan, Bruce A., 431
- Bucher, Enrique, 482
- Buchloe dactyloides*, 417
- Bunchgrass, 26
- Burgess, Michael D., 554
- Burning, 73
- Bryant, Fred C., 498

### C

- C3 species, 470

- C4 species, 470
- Cade, Brian S., 322
- Cadle, J.M., 206
- California, 327
- Call, Christopher A., 53
- Carande, Vilma G., 68
- Carbaryl, 336
- Carbon isotope discrimination, 224
- Carbon isotope ratio, 126
- Cardenas, Manuel, 32
- Carex* spp., 18
- Caribou, 206
- Cassels, Debra M., 81
- Castor canadensis*, 322
- Cates, Rex G., 563
- Cattle, 198, 498, 549
- Celtis pallida*, 560
- Cenchrus ciliaris* L., 53, 60
- Centaurea maculosa*, 145
- Centaurea solstitialis*, 392
- Certaoides lanata* (Pursh) J.T. Howell, 240
- Cervus elaphus nannodes*, 327
- Chaco, 482
- Chanasyk, David S., 258, 358, 528
- Cheatgrass, 85
- Chloris guayana*, 267
- Cholinergic, 343
- Chromic oxide, 137
- Chromic oxide contamination of pasture previously used in marker studies, 194
- Clark, D.H., 132
- Clary, E.M., 246
- Clary, Warren P., 18
- Climate, 53, 85
- Climatic effects on buffelgrass productivity in the Sonoran Desert, 60
- Climax, 442
- Coastal prairie-scrub mosaic, 327
- Cochran, Robert C., 246
- Coleoptile, 218, 455
- Colinus virginianus*, 141
- Colubrina texensis*, 560
- Columbian black-tailed deer, 327
- COMMENT: Ungulate herbivory of willows on Yellowstone's northern winter range: Response to Singer et al. (1994), 475
- Community
- dynamics, 392
- succession, 307
- Compaction, 18
- Comparison of fecal analysis and rumen evacuation techniques for sampling diet botanical composition of grazing cattle, 202
- Competition, 100, 392, 402, 417, 508

Conductance, 290  
 Continuous grazing, 81  
 Contrasts of esophageal-fistula versus bite-count techniques to determine cattle diets, 498  
 Cook, John W., 187  
 Cottontail rabbit, 232  
 Cox, Jerry R., 53, 60  
 Coyote willow, 322  
 Cravey, Matthew D., 198  
 Creeping foxtail, 132  
 Crested wheatgrass, 132  
 Chromic oxide, 137  
 Crawl, Todd A., 53  
 Crown depth, 218  
 Crude protein, 141, 211, 380  
 Currie, Pat O., 362

## D

Daniel, Alpiyou, 32  
 Datalogger control of environmental chambers for variable-temperature germination experiments  
 Deer, 431  
 Defining failures and successes, 98  
 Defoliation, 18, 240  
 frequency, 314  
 height, 314  
 Degree days, 108  
 Deliberto, Thomas J., 92  
*Delphinium*  
*barbeyi*, 343, 459  
*occidentale*, 459  
 Denda, Issa, 159  
 Desired plant community, 271  
 De Vries, Michiel F. Wallis, 370  
 Diet  
 analysis, 202  
 composition, 267  
 quality, 370,  
 quality techniques, 448  
 range condition, 482  
 selection, 350  
 Diet quality of suckling calves and mature steers on Northern Great Plains rangelands, 438  
 Dietary  
 fiber, 557  
 overlap, 327  
 quality, 327  
 Diets, 549  
 Digestible organic matter, 380  
 Digestibility, 362, 560  
 Dispersal, 145  
 Disturbance, 187, 307  
 Doescher, Paul S., 224, 402, 406  
 Donart, G.B., 542  
 Doornbos, D.E., 194  
 Dormaar, Johan F., 258  
 Dostader, K.G., 298

Drainage, 45  
 Drawe, D. Lynn, 498  
 Drying temperatures, 557  
 Dye II, Kenneth L., 100  
 Dynamic programming, 68

## E

Ecological  
 condition, 211  
 site, 271  
 Ecology, 100  
 Ecosystem changes associated with grazing intensity on the Punta Ninfa rangelands of Patagonia, Argentina, 517  
 Ecotype, 402  
 Eddleman, Lee E., 224, 410  
 Effect of competition by cheatgrass on shoot growth of Idaho fescue, 402  
 Effect of native prairie, crested wheatgrass (*Agropyron cristatum* (L.) Gaertn.) and Russian wildrye (*Elymus junceus* Fisch.) on soil chemical properties, 258  
 Effect of temperature on growth of cheatgrass and Idaho fescue, 406  
 Effect of substrate drying method on in vitro dry matter disappearance in moose, 557  
 Effects of buffer additions on fermentation of dormant range grasses, 39  
 Effects of carbachol administration in cattle grazing tall larkspur-infested range, 343  
 Effects of grasshopper control programs on rangeland breeding bird populations, 336  
 Effects of grazing management on standing crop dynamics in tallgrass prairie, 81  
 Effects of incubation time and sodium sulfite upon in-vitro digestibility estimates and sample filtering time, 451  
 Elevation, 224  
 Elissalde, Nestor O., 517  
 Elk, 431  
 Elk and deer diets in a coastal prairie-scrub Mosaic, California, 327  
 Energy balance, 150  
 Engle, David M., 141, 232  
 Environmental control, 554  
 Epidermis, 267  
 Erosion, 517  
 Estimating forage intake and quality in grazing cattle: A reconsideration of the hand-plucking method, 370  
 Estimating ruminal nitrogen-to-energy balance with in situ disappearance data, 448  
 Evapotranspiration, 45, 528  
 Exotic species, 386  
 Extrusa, 493

## F

Faber, William E., 557  
 Fecal  
 analysis, 202  
 output, 194  
 Feedlot performance, 246  
 Fertilization, 165  
 Fertilizer N recovery, 172  
 Fescue grasslands, 528  
*Festuca altaica* subsp. *halli*, 410  
*Festuca idahoensis*, 402, 406  
 Fiber, 560  
 disappearance, 39  
 recovery, 451  
 Field variability, 554  
 Fire, 26  
 Fire-adapted species, 386  
 Fischbach David, 98  
 Flowering, 108  
 Foliar cover, 251, 523  
 Follett, R.F., 470  
 Food habits, 327  
 Forage, 32, 362  
 phosphorus, 493  
 production, 81  
 quality, 211, 487, 557  
 Forage intake by beef steers grazing winter wheat with varied herbage allowances, 198  
 Forage quality, intake, and digestibility of year-long pastures for steers, 542  
 Forages, 448  
 Franch, Joan, 270  
 Frank, A.B., 470  
 Fusco, Michael, 32

## G

Galyean, Michael L., 448  
 Gas exchange and water relations of Lemmons' willow and Nebraska sedge, 121  
 Gas production, 39  
 Gavlak, R.G., 206  
 Genetic aspects of diet selection in the Chihuahuan desert, 549  
 Genetic selection, 350  
 Genetic variation and inheritance characteristics for carbon isotope discrimination in alfalfa, 126  
 Geographic information systems, 159  
 George, T. Luke, 336  
 Germination, 410  
 Gillen, Robert L., 81  
 Glyphosate, 459  
 Gogan Peter J., 327  
 Grain sorghum, 246  
 Grain supplementation on bluestem range for intensive-early stocked steers, 246  
 Gramineae, 455  
 Grass fertilization, 465

Grass seedling morphology when planted at different depths, 218  
 Grass utilization and grazing distribution within intensively managed fields in Central Alberta, 358  
 Grau, Eric A., 314  
 Grazing, 26, 115, 159, 165, 307, 498  
   distribution, 358  
   effects, 528  
   management, 32, 240, 314  
   systems, 350  
 Grazing effects on germinable seeds on the fescue prairie, 423  
 Grazing effects on soil water in Alberta foothills fescue grasslands, 528  
 Grazing influences on watering point vegetation in the Chihuahuan desert, 32  
 Great Basin, 573  
 Great Plains, 264  
 Green, Douglas M., 307  
 Grings, Elaine E., 211, 362, 438  
 Growth chambers, 406  
 Growth of winterfat following defoliation in Northern Mixed Prairie of Saskatchewan, 240  
 Gunter, Stacey A., 198, 448  
 Gutierrez, Paul H., 68  
 Gutman, Mario, 270

## H

Haferkamp, M.R., 211, 264, 362  
 Ham, J.M., 150  
 Hand-plucking, 370  
 Hardegree, Stuart P., 554  
 Harrington, Jr., John A., 159  
 Hart, Richard H., 165, 508  
 Hartnett, David C., 26  
 Heat flux, 150  
 Heitschmidt, R.K., 211  
 Hellgren, Eric C., 560  
 Herbage dynamics on 2 Northern Great Plains range sites, 211  
 Herbage standing crop, 159  
 Herbicide, 165, 232  
 Herbivory, 402  
 Heritability, 549  
 Hinds, Frank C., 487  
 History, 350  
 'Hobble Creek', 398  
 Hodges, Mark E., 81  
 Hoenshell, Calvin L., 172  
 Hofmann, L., 218, 470  
 Holechek, Jerry, 32, 202  
 Hollingsworth, Karla J., 137  
 Horn, Gerald W., 198  
 Hot desert, 60  
 How much sagebrush is too much: An economic threshold analysis, 73  
 Hubbard, C.E., 172  
 Hunt, Jay, 451

Hutcheson, David, 451  
 Hydrology, 528  
 Hydroxyatrazine, 298  
 Hypothesis testing, 187

## I

Ibarra-F., Fernando, 53, 60  
 Impacts of defoliation on tiller production and survival in northern wheatgrass, 115  
 In situ digestion, 448  
 Indiangrass, 150  
 Indiangrass and caucasian bluestem responses to different nitrogen sources and rates in the Ozarks, 172  
 Indirect effects, 336  
 Infiltration, 535  
 Influence of an environmental gradient on physiology of singleleaf pinyon, 224  
 Influence of temperature on germination of Japanese broom seed, 264  
 Intake, 137, 198, 542  
 Interference between cheatgrass and yellow starthistle at 3 soil depths, 392  
 Intermountain West lightning-caused fires: Climatic predictors of area burned, 85  
 Intensive early stocking, 165  
 Introduced  
   forages, 258  
   species, 423  
 Invasive potential of ashe juniper after mechanical disturbance, 503  
 Irrigated pastures, 542  
 Irrigation, 362  
 Irving, Barry D., 358  
 Isotopic composition, 470

## J

Jackson, N.A., 132  
 Jacobs, James J., 73  
 Jaendl, Raymond G., 224  
 Johnson, Douglas A., 126, 132  
 Johnson, P.S., 39  
 Jordan, Peter A., 557  
*Juniperus pinchotii*, 100, 503

## K

Karl, M.G., 211  
 Karn, James F., 493  
 Kauffman, J. Boone, 307  
 Keigley, Richard B., 475  
 Kenya, 53  
 Kephart, K.D., 132  
 Kiesling, H.E., 542  
 Kirksey, R.E., 542  
 Klopfenstein, Terry J., 137  
 Kloppenburg, P.B., 542  
 Knapp, Paul A., 85  
 Knight, R.W., 535

Kowalenko, Brendan L., 240  
 Kress, D.D., 194

## L

Lacey, John R., 145  
 Lamb, James B., 137  
 Larson, Larry L., 376, 392  
 Lawrence, B. Keith, 376  
 Leaf conductance, 224  
 Leaf internodes, 218  
 Leslie, Jr., David M., 141, 232  
 Life of control, 73  
 Link, Steven O., 290  
 Litter phytomass, 251  
 Livestock, 159  
   grazing, 159  
   nutrition, 487  
 Livestock grazing impacts on interrill erosion in Pakistan, 251  
 Llorens, Enrique M., 442  
 Loblolly pine, 511  
 Lochmiller, Robert L., 141, 232  
 Logistic model, 322  
 Long term change in vegetation following herbicide control of larkspur, 459  
 Long-term herbicide effects, 298  
 Lyons, Robert K., 380  
 Lysimeter, 45

## M

MacNeil, Michael D., 264  
 Malathion, 336  
 Manners, Gary D., 343  
 Marginal farmland, 64, 465  
 Martin Jr., Alton, 511  
 Martin-R., Martha H., 53, 60  
 McCollum III, F. Ted., 81, 198, 448  
 McEwen, Lowell C., 336  
 McMurry, S.T., 232  
 Measurements of water use by prairie grasses with heat balance sap flow gauges, 150  
 Mechanical control, 503  
*Medicago sativa*, 126  
 Mesocotyl, 218  
 Metabolism studies, 92  
 Metsulfuron, 459  
 Mexico, 53  
 Microhistological  
   analysis, 267, 498  
   technique, 202  
 Mieres, Juan M., 198  
 Migratory geese, 206  
 Miller, M.S., 298  
 Mitchell, John E., 187  
 Mixed prairie, 115, 258  
 Mob grazing, 376  
 Modeling, 108, 535  
 Mohammad, Ayed G., 202

Momont, P.A., 39  
 Moser, Lowell E., 376  
 Mountain big sagebrush browse decreases dry matter intake, digestibility, and nutritive quality of sheep diets, 487  
 Murray, Leigh W., 202, 251, 523

## N

Naeth, M. Anne, 258, 358, 528  
 Nasri, Mohamed, 402, 406  
 Native  
   grasses, 455  
   range, 493  
   species, 423  
 Near infrared reflectance spectroscopy, 380  
 Near infrared reflectance spectroscopy estimation of <sup>13</sup>C discrimination in forages, 132  
 Nelson, David L., 398  
 Neutral detergent extraction, 451  
 Neutral detergent fiber, 211  
 'NewHy', 362  
 Ngugi, Robinson K., 487  
 Nicholson, Andrew R., 240  
 Nitrate toxicity, 376  
 Nitrogen, 560  
 Nitrogen and atrazine on shortgrass: Vegetation, cattle, and economic responses  
 Nitrogen and phosphorus effects on blue grama and buffalograss interactions, 417  
 Nitrogen fertilizer use efficiency in steer gain on old world bluestem, 465  
 Nitrogen-use efficiency, 64, 290  
 Nodes, 218  
 Nonamino nitrogen, 141  
 Nonlinear least squares regression, 322  
 North America, 60  
 North Slope Alaska, 206  
 Northern Great Plains, 362  
 Northwest Mexico, 60  
*Nosema locustae*, 336  
 Nutrient  
   availability, 417  
   return, 18  
 Nutrients, 438  
 Nutrition, 141

## O

Observation: Botanical and other characteristics in Arctic salt-affected coastal areas, 206  
 Observations on spread and fragmentation of blue grama clones in disturbed rangeland, 508  
*Odocoileus hemionus columbianus*, 327  
 Olson, Bret E., 145, 194  
 Optimization of rangeland management strategies under rainfall and price risks, 68  
 O'Reagain, Peter J., 314  
 Organic matter digestibility, 451

Ortega, Isaac M., 498  
 Owens, M.K., 503  
 Owensby, Clenton E., 246

## P

Palmquist, Debra, 264  
 Panciera, M.T., 206  
*Panicum virgatum* L., 455  
 Paradigm shift, 350  
 Pastoralists, 159  
 Pasture, 137, 438  
 Pearson, Henry A., 511  
*Pediolagus salinicola*, 482  
 Pehrson, Åke, 557  
 Perennial introduced grass, 60  
 Pesticide, 336  
 Petersen, Brett E., 336  
 Pfeiffer, Kent E., 26  
 Pfister, James A., 343  
 Phenology, 108  
 Philosophy, 350  
 Phosphorus supplementation of replacement heifers in the Northern Great Plains, 493  
 Photosynthesis, 121, 290  
 Physical factors that influence fecal analysis estimates of herbivore diets, 270  
 Phytomass, 523  
 Picloram, 100, 459  
 Pieper, Rex D., 159, 202  
 Pietz, D.G., 232  
 Pinchak, William, 451  
*Pinus monophylla*, 224  
 Plant response to soils, site preparation, and initial pine planting density, 511  
 Poisonous plant, 459  
 Population  
   dynamics, 115  
   ecology, 406  
 Postingestive feedback as an elementary determinant of food selection and intake in ruminants, 2  
 Powell, Jeff, 487  
 Predicting biomass of beaver food from willow stem diameters, 322  
 Predicting buffelgrass survival across a geographical and environmental gradient, 53  
 Predicting flowering of 130 plants at 8 locations with temperature and daylength, 108  
 Prescribed burning, 232  
 Productivity, 240  
*Prosopis caldenia*, 442  
*Prosopis glandulosa*, 560  
 Protein, 362  
 Provenza, Frederick D., 2  
 Pritchard, R.H., 39  
 Pruitt, R.J., 39  
*Puccinia taneceti* DC, 398  
 Put-and-take grazing, 165

## Q

Quality, 542  
 Quinton, Dee A., 423

## R

Rainwater harvesting for increasing livestock forage on arid rangelands of Pakistan, 523  
 Ralphs, Michael H., 459  
 Range, 549  
   cattle, 194  
   condition, 32, 271, 517  
   grasses, 132  
   management, 181  
   seeding, 53  
 Rangeland, 32, 137, 145, 470  
   drill, 386  
   health, 181  
   pasture, 542  
   resource economics, 64  
   trend, 181  
   weeds, 392  
 Rangeland condition concept and range science's search for identity: A systems viewpoint, The, 181  
 Rate of passage, 343  
*Ratibida columnifera*, 410  
 Ratzlaff, Teresa D., 386  
 Rawls, W.J., 535  
 Reclamation, 431  
 Redberry juniper-herbaceous understory interactions, 100  
 Redente, E.F., 417  
 Redmann, Robert E., 240  
 Redmon, Larry A., 198  
 Redroot pigweed, 376  
 Reed, Bradley C., 159  
 Rehabilitation, 386  
 Relative abundance, 482  
 Relative abundance and diet composition of Chacoan daves in relation to range condition, 482  
 Response of a mixed native warm-season grass planting to nitrogen fertilization, 64  
 Response to comment: Ungulate herbivory on willows on Yellowstone's northern winter range, 563  
 Responses of downy brome to nitrogen and water, 290  
 Revegetation, 508  
 Richard, C.E., 417  
 Rickard, William H., 290  
 Ries, R.E., 218  
 Riparian, 307  
 Riparian species, 121  
 Risk analysis, 68  
 Romo, James T., 115, 240, 410  
 Root  
   and shoot growth, 406  
   growth, 410  
   mass, 258  
 Root-plowing effects on nutritional value of browse and mast in south Texas, 560  
 Roots, 218  
 Rosati, Victoria R., 482

Rostagno, Cesar M., 517

Rotation grazing, 81

Roth, N.J., 194

Rumbaugh, Melvin D., 126

Ruminally degraded nitrogen, 448

Ruminally degraded organic matter, 448

Runoff, 45, 523, 535

Russian wildrye, 132

Ruston, 511

Ruthven III, Donald C., 560

Rutledge, Pat L., 358

## S

6-chloro-*N*-ethyl-*N'*-(1 methylethyl)-1,3,5-triazine-2,4-diamine, 298

Sagebrush, 85

*Salix exigua*, 322

Sample size, 187

Samuel, Marilyn J., 508

San Julian, Roberto, 198

Satellite-based herbaceous biomass estimates in the pastoral zone of Niger, 159

Savabi, M.R. 535

Sawyer, 511

Scarnecchia, David L., 181

*Schizachyrium scoparium*, 26

Schliesing, T.G., 503

Season, 423

Sediment concentration, 251

Seed, 145

bank, 503

rain, 503

response, 554

Seed size distribution, germination, and emergence of 6 switchgrass cultivars, 455

Seeding, 376

Seedlings, 503

Seligman, Nóam G., 270

Senock, R.S., 150

Sequence of species selection by cattle and sheep on South African sourveld, 314

Shah, Bashir Hussain, 523

Shear-windrow-burn, 511

Sheley, Rogert L., 392

Shoop, Marvin C., 165

Shoot growth, 410

Short duration grazing, 358

Short, R.E., 438

Shortgrass steppe, 187, 298

Shrub invasion, 517

Shrub preference and utilization by big game on New Mexico reclaimed mine land, 431

Shrub/grass relationships, 517

Shrubs, 431

Sideoats grama, 64, 218

Sims, Phillip L., 465

Simulation, 535

Singer, Francis S., 563

Site Conservation Threshold, 271

Skeet, William, 431

Small grains, 198

Smith, Michael A., 73

Smooth brome grass, 218

Soil carbon and nitrogen of Northern Great Plains grasslands as influenced by long-term grazing, 470

Soil

depth, 423

erosion, 271

nutrients, 53

organic matter, 258, 470

quality, 258

surface conditions, 517

sustainability, 258

texture, 417

water, 45, 528, 535

*Sorghastrum nutans*, 172

Southern Plains, 64, 465

Southward, G. Morris, 159

Species

composition, 211

diversity, 307

richness, 100

Spectral analysis, 132

Speed size distribution germination, and emergence of switchblade cultivars, 455

Spotted knapweed seed viability after passing through sheep and mule deer, 145

Springer, Timothy L., 455

Sprinkle, J.E., 194

Stable states, 442

Standing crop, 240

Standing phytomass, 251

Starch, 39

Stock density, 358

Stocking rate, 32

Stuth, Jerry W., 380

Sublethal effects, 298

Succession, 100 442

Succession and livestock grazing in a northeastern Oregon riparian ecosystem, 307

Suleman, Sheikh, 523

Sulfur, 39

Supplement and forage effects on fecal output estimates from an intra-ruminal marker device, 137

Sustainability, 271

Svejar, Tony., 121

*Sylvilagus floridanus*, 232

## T

2,4-D, 73

2,4-diamine, 298

Tallgrass prairie, 81, 246

Tanaka, D.L., 470

Tate, Kenneth W., 81

Technical Note: Fecal NIRS equation field validation, 380

Technology, 350

Tembo, Ackim, 32

Tess, M.W., 194

Texas, 53

Texas Coastal Bend, 498

Thermal units, 410

Thiede, Michael E., 290

Thill, Ronald E., 511

Tiller demographics, 115

Tillering, 115

Tilman, B.A., 206

Total sediment loss, 251

Total urine collection apparatus for female bison and cattle, A, 92

Toxic plants, 343

Transitions, 442

Transpiration, 224

efficiency, 126

Tree spacing, 511

Trent, James T., 121

*Triticum aestivum*, 198

Tule elk, 327

Tundra, 206

Type II error, 187

## U

Ueckert, Darrell N., 100

Under-plant-release, 511

Urea, 39, 172

Urness, Philip J., 92

Use of degree-days in multiple-temperature experiments, 410

Utilization, 431

## V

Vanzant, Eric S., 246

Vegetal recovery following wildfire in seeded and unseeded sagebrush steppe, 386

Vegetation and soil responses to grazing simulation on riparian meadows, 18

Vegetation measurement, 187

Vegetative reproduction, 508

*Vicia sativa*, 267

Viewpoint: Grazing management and research now and in the next millennium, 350

Viewpoint: The state and transition model applied to the herbaceous layer of Argentina's calden forest, 442

Villalobos, Guillermo, 137

## W

Wagner, Frederic H., 475

Wallace, Joe D., 202

Wallander, Roseann T., 145

Waller, Steven S., 376  
 Walker, Derek A., 549  
 Walker, John W., 350  
 Wambolt, Carl L., 475  
 Warm-season annuals, 64  
 Water budget for south Texas rangelands, 45  
 Water erosion prediction project (WEPP) rangeland hydrology component evaluation on a Texas range site, 535  
 Water stress, 121  
 Water yield, 45  
 Water-use efficiency, 126, 132, 290  
 Weed, 145  
 Weed control, 165

Weed suppression with grazing or atrazine during big bluestem establishment, 376  
 Welch, Bruce L., 398  
 Weltz, Mark A., 45  
 Western wheatgrass, 218  
 Whisenant, Steven G., 100  
 White, Larry M., 108  
 White-tailed deer, 560  
 Willms, Walter D., 258, 423  
 Winder, John A., 549  
 Wood, M.K., 251, 431, 523  
 Wolters, Gale L., 511  
 Wylie, Bruce K., 159  
 Wyoming, 487  
 Wyomingensis, 73

## X


Xylem pressure potential, 224


## Y

Yield and quality of RS-2, a quackgrass x bluebunch wheatgrass hybrid, 362  
 Young, James A., 264

## Z

Zhang, Jun, 115





- Pasture & Range
- Erosion Control
- Alfalfa
- Custom Seed Blends
- Over 300 Species in Stock
- Fast, professional service

Call or Fax for our Catalog (801) 531-1456, Fax (801) 768-3967  
 Granite Seed Co., P.O. Box 177, Lehi, Utah 84043

